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Titan Rocket Explodes Just After Lifting Off From California Base

By **WILLIAM J. BROAD**

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VANDENBERG AIR FORCE BASE, Calif., April 18—A Titan rocket carrying a secret military payload exploded today in a large orange fireball seconds after liftoff here, Air Force officials said.

There were no injuries, they said, but the explosion damaged the launching pad and five acres surrounding it.

A combination of liquid and solid-fuel rockets power the \$65 million Titan 34D, the largest of the nation's unmanned rockets. The rocket exploded here at Launching Complex 4 at 10:45 A.M., said Sgt. Virgil Short of the Air Force, a Vandenberg spokesman.

"It was several hundred feet in the air," he said. "The fireworks were spectacular. I was about 11 miles away. I heard the booms but it wasn't deafening. They reportedly heard it as far away as Avila Beach, 100 miles to the north."

The explosion released a cloud of poisonous fumes; nearby schoolchildren were ordered to stay indoors until the cloud dissipated.

"It's too early to speculate why it blew up," Sergeant Short said, adding that an investigation was under way.

The explosion was a major setback to the military's launching capability. Dr. Paul B. Stares, a military space expert at the Brookings Institution in Washington, said, "It's a real crisis."

The space shuttles, which also carry large military satellites into orbit, have been grounded while investigators seek the cause of the explosion Jan. 28 of the shuttlecraft Challenger, which killed its crew of seven. Meanwhile, the military has been forced to rely on unmanned rockets, particularly the Titan, for launching satellites and other military payloads.

The payload lost today was almost certainly a KH-11 photographic reconnaissance satellite, according to Dr. Stares and Stephen Daggett, a senior analyst with the Center for Defense Information, a nonprofit organization based in Washington.

Dr. Stares said that the explosion "compounds the problems we're already having with the shuttle." He said a KH-11 costs about \$800 million, and that if one were destroyed today

aboard the Titan "it means that the United States is currently dependent on a single reconnaissance satellite in space."

"If it should fail," he said, "the U.S. would have no spy satellites over the Soviet Union."

He said KH-11 satellites help the United States monitor the Soviet military, check compliance with arms control agreements and observe "hot spots" around the globe.

Last Aug. 28, another Titan was destroyed by range safety officers here after its flight began to go awry. It also reportedly carried a KH-11 reconnaissance satellite.

That loss supports the contention that a KH-11 satellite was on the rocket being launched today, Mr. Daggett said. "The only reason for that speculation is that they've been missing one since last August and they usually have two of them up at one time," he said. "Also, it's a launch from Vandenberg, which means it went into polar orbit, and it was on a Titan, the biggest booster we've got."

Polar orbits enable satellites to fly over most of the earth's surface. The Air Force is constructing a \$2.8 billion complex here to loft space shuttles into polar orbit.

Design of Booster Rockets

There was an inquiry after the August loss, but no design changes resulted, said Capt. Rick Sanford, chief spokesman of the missile test program here. He said he knew of no inquiry or design changes in the Titan program after the shuttle explosion.

The Titan rockets have a liquid-fuel center engine complex and two solid-fuel booster rockets. The booster rockets are segmented and connected by O ring seals similar to those used in the space shuttle booster rockets, according to Arthur E. Koski, a spokesman for Martin Marietta Aerospace of Denver, a contractor for the Titan 34D. The Titan exploded at a time when only the boosters were supposed to be firing.

A failure of the O rings seals is considered the prime cause of the Challenger explosion.

"I don't believe the Titan has ever had any problems with the solids," said Mr. Koski. "Including this launch, five out of 134 Titan 3's have failed."

The Titan 34D liquid engines are made by Aerojet TechSystems of Azusa, Calif., the solid ones are made by United Technologies Chemical Systems Division of Sunnyvale, Calif.

Schools Back to Normal

The blast here this morning raised concern in nearby communities that residents might be exposed to toxic fumes.

"Initially, you could see the pinkish cloud off in the distance," said James R. Brown, superintendent of the Lompoc Unified School District. Lompoc is about 15 miles southeast of the Titan launching pad, which lies along a desolate stretch of the California coastline 130 miles northwest of Los Angeles.

"We directed our principals to keep children in schoolrooms till further notice," he added. "About an hour later, we received word from the base that

there was no danger, and we confirmed that. We then went back to normal operations."

The two most prominent chemicals in the cloud were aerosol 90 and nitrogen peroxide, Air Force officials said. Sergeant Short said the cloud went "south toward Santa Barbara."